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Appraisal of Teaching Competency

By PAUL R. GRIM AND CYRIL J. HOYT

IN TEACHER education there are three approaches used for improving the quality of professional personnel. These may be briefly stated as effective selection, functional pre-service education, and in-service education. Any of these three approaches necessitates the description and definition of teaching competency. In order to select candidates more wisely, educate them more effectively, and promote their growth in service, it is necessary to come to some agreement regarding the qualities which society seeks in its teachers. After reaching agreement concerning these qualities or competencies, it is essential that instruments or techniques be developed which will assist in collecting evidence pertaining to these desirable behaviors. The purpose of this paper is to describe an attempt to define and evaluate certain aspects of teaching competency.[1]

To investigate teaching competency in its entirety seemed a task too great for the resources at our disposal. Consequently, to narrow our task to a manageable size, we selected certain aspects for our immediate attention. Teaching competency seems to be intimately related to the goals of teaching. Hence, a definition of competencies would seem to presuppose a definition of the goals of teaching. From this point of view, a teacher's competency should be specific to his subject-matter field, his grade, and other aspects of the instructional environment. We assume, for example, that a certain pattern of competencies may be more crucial for success on one level than on another. Cook and his collaborators found that students preparing for elementary-school teaching hold relatively different

[1] This investigation has been supported for three years by the General Research Fund of the Graduate School of the University of Minnesota. Research assistants have been Thomas C. Burgess, Cletus J. Cummiskey, and Samuel T. Mayo.

attitudes toward children from those held by students planning to be high-school teachers.[2]

It would seem apropos to ask if there are not certain teaching competencies which are general throughout the whole gamut of teaching situations. The authors of this paper believe that there are certain definable dimensions which are common to many, if not all, teaching situations. We believe that these dimensions are related to the effective interpersonal relations between teacher and learner. We think of the psychological state of the learner as a cluster of intervening variables (such as attitudes, feelings, and emotions) between the instructional materials as stimulus and the teacher-approved behavior as response. No learning of a desirable nature will take place without the learner being motivated to wrestle actively with the material and to have made it a meaningful portion of his own experience. An important task of the teacher is to initiate this state of mild tension in the individual pupils. Such a tension state is an aspect of interpersonal relations we are attempting to evaluate. Teacher-pupil relations are two-way. If they are strained, both teacher and pupil suffer; if they are harmonious, both will benefit. The alert teacher will not persist in procedures which make his task more difficult, purely from his own selfish point of view, to say nothing of the effects upon the pupil. The co-operation of teachers in the production of evaluation instruments may be enlisted, in part, by assuring them that such instruments will directly benefit them by making their job less difficult and more enjoyable.

THE present study is limited to certain interpersonal relations already indicated. We propose to appraise aspects of the educative process while it is in operation. Since the student is a continuous part of the instructional process, we have assumed that his reactions will yield fruitful information upon which differentiations may be made among several degrees of competency.

Previous studies which have employed such approaches as the search for traits of teaching competency, measurement of pupil achievement, studies of case histories of pupils, or ratings of teachers by administrators and supervisors have taken much

[2] Cook, Walter W.; Leeds, Carroll H.; and Callis, Robert. *Minnesota Teacher Attitude Inventory Manual.* New York: Psychological Corporation, 1951. 15 pp.

at face value. For example, some studies which correlated teacher characteristics with measures of pupil growth have defined such growth in rather narrow terms. These terms have been largely those of achievement in factual material, mastery of skills, and the degree to which pupil behavior approached teacher-approved standards. The emotional state of the child has been mentioned, but it has been largely neglected as one of several components of the measurement of pupil growth (in the sense of wholesome development based upon modern understanding of mental hygiene).

One aspect of teaching competence too promising to be long ignored is the consideration of the educational development of each child within the frame of reference of his own self; that is, his psychological world as he, uniquely, perceives it as distinguished from the psychological worlds of the other students and the teacher in the classroom. Our approach of "getting within the individual" in order to see just how he autistically views the world is the antithesis of taking at face value the belief that stimulus situations are much the same for all pupils.

This paper centers largely around the development of two new instruments for the evaluation of teaching competencies. One samples students' feelings directly on a personalized level. The other utilizes principals' ratings as criteria upon which to build the student's instrument. The two instruments which we are developing are known as the Student Reaction Inventory and the Teacher Characteristic List. Much of the early developmental work on these instruments was done rationally, from the armchair, so to speak. Empirical validation now in progress will provide evidence of the soundness of the rationale.

THE items of the Student Reaction Inventory were constructed by using remarks which students made about their classroom experiences. Presenting certain of our colleagues with a sample of these items, we asked each to tell what he thought a teacher might have done, or might have failed to do, which would result in a large proportion of his students making such a statement. On the basis of the replies, the items were grouped into seven categories. The rationale for setting up these categories was merely that of grouping items together which appeared to be related to some common aspect of competency. The names for the categories emerged from general-

ized concepts common to each group of items. The names, with brief descriptions of our concepts of the underlying competencies, are as follows:

1. *Quality of classroom government*—This is the degree to which students govern their own behavior in a constructive manner and act in accordance with democratic co-operative ideals. In the phrase "constructive manner," we include the acceptance of personal and group responsibility for the consequences of the acts.
2. *Clarity of objectives*—This delineates the teacher's ability to help pupils to understand the purposes of a course and to see the relation of these purposes and of the daily learning activities to their own personal goals.
3. *Co-operative group work*—Here is considered the extent to which the teacher provides opportunities for pupils to work together effectively on projects.
4. *Incentive quality*—The quality of habitually used motivational devices in terms of their effectiveness for the students is evaluated here. The incentive quality would be considered low, for example, if motivation is secured by using competitive situations in which there is only one "winner," by exercising the teacher's authority, or by using bribes, prizes, or punishment.
5. *Motivational intensity level*—Some determination is sought here of the extent to which the teacher can channel the activities of students toward effective goals while minimizing non-effective, distracting influences.
6. *Provision for students' psychological needs*—An appraisal is here attempted of the sensitivity of the teacher to the psychological needs of the students. A teacher who extends emotional assurance to pupils in challenging learning situations, who recognizes and provides for children's needs for acceptance, for success, for sharing and participation—their needs for freedom from pervading fears—would obtain a high score in this area.
7. *Individualization of instruction*—Some measure is attempted of the extent to which the teacher is sensitive to individual differences in students' capabilities, needs, and interests, and adjusts the learning activities in the light of such differences.

The Student Reaction Inventory consists of 200 statements selected from remarks which students have been known to make about their experiences in particular classes. The items are in the form of statements of feeling of the individual respondent toward some aspects of the instructional environment. The student was asked to read each item carefully and to decide whether or not it was the sort of remark he might have made

about the particular class in which he was tested. If so, he was to respond "agree" by blackening the A space on the answer sheet. If he decided that the statement was not the kind of remark he would make, he was to respond "disagree" by blackening the D space on the answer sheet. If he was "uncertain" about his feelings, he was to blacken the U space. Thus three response choices were given for each item. The following statements are examples of items taken at random from the Student Reaction Inventory:

1. No matter what I do, I can't seem to satisfy my teacher (Categories 2, 7).
19. When I needed help in this course I always went to other students to get it (Not classified).
40. I think I'll be able to use the things I've learned in this course when I get out of school (Category 4).
51. I must admit I don't know what we are doing in this class much of the time (Not classified).
114. I have had no trouble working with the other members of the class (Category 3).
128. I have to force myself to study in this class (Category 4).
173. A boy never gets a fair break in this class (Category 1).
123. I work hard in this class to do better than I've done before (Categories 1, 4, and 5).

THE 70 items of the Teacher Characteristic List were constructed by first, visualizing each of these seven categories from the principal's viewpoint, and, on this basis, writing the specific items. Ten items were constructed for each category. The items of the Teacher Characteristic List were arranged in random order as far as the category classifications were concerned. The principal was asked to respond to each item according to the degree to which the item characterized the teacher's behavior. The principal was given five responsive choices or response descriptions as follows:

1. The statement characterizes this teacher's work.
2. The statement characterizes this teacher's work to a large extent, but not entirely.
3. The statement characterizes this teacher's work only to a limited degree.
4. The statement seldom or never characterizes this teacher's work.
5. No opportunity to observe this teacher's work with respect to this item.

The ten items of the Teacher Characteristic List which per-

tained to Motivational Intensity Level (Category 5) are:

35. Pupils work in this teacher's class only to avoid punishment.
62. Pupils avoid attending this teacher's class whenever a plausible excuse can be found.
10. Classwork is not stimulating to pupils in this teacher's classes, so they do a minimum of work.
56. Although pupils with low ability seem interested in this teacher's classes, those with high ability appear bored.
20. While the pupils with high ability are interested in this teacher's classes, those with low ability seem unaware of what is going on.
48. Most pupils seem interested in this class but give little evidence of outside preparation.
26. Most pupils do fair work in this teacher's classes, and many also seem interested.
65. Pupils appear interested in this teacher's classes, and seem to devote some time to outside preparation regularly.
61. Most pupils appear highly interested in this teacher's classes, and give considerable time to preparation for them.
64. Most pupils seem highly interested in this teacher's classes, and some have adopted hobbies related to the class activities.

IN ORDER to refine these instruments it was necessary to administer them in a number of schools. Data were collected on 100 teachers in nine widely scattered urban and suburban high schools. In each school the principal was asked to select ten teachers from the extremes of the continuums on which he judged desirable teaching qualities. The teachers administered the Student Reaction Inventory in their own classes. The principal himself responded to the Teacher Characteristic List. Data on 80 teachers were usable in the initial stages of the investigation since one principal—with our consent—modified his selection of teachers.

The scales of the Teacher Characteristic List were refined by the method of reciprocal averages, a technique originated by the late Charles I. Mosier. This is a technique which maximizes the reliability of the scale and results in weighting the item responses in accordance with their power to discriminate on the variable measured by the items in the group.[3]

[3] Mosier, Charles I. *Evaluating Rural Housing.* Gainesville, Florida: University of Florida, 1942. 88 pp. By the same author, *see also:* "Measurement in Rural Housing: a Preliminary Report," *Educational and Psychological Measurement,* II (April, 1942), pp. 139–52; *and* "Machine Method of Scaling by Reciprocal Averages," *Proceedings of the Research Forum, August 26–30, 1946.* New York: International Business Machine Corporation, 1947. pp. 35–39.

The current phase of the project is that of the refinement of the items of the Student Reaction Inventory into a number of internally consistent clusters whose scores are meaningful in terms of certain teaching competencies. This will be done initially by item analysis of Student Reaction Inventory items using scores on the Teacher Characteristic List as criteria, and later use of other criteria such as expert observational appraisal. We are considering refining the Student Reaction Inventory scales also by the method of reciprocal averages. This will involve considerably more work than the refining of the Teacher Characteristic List because we expect the number of items in some of the clusters to be larger.

BOTH the Student Reaction Inventory and the Teacher Characteristic List can be used in the evaluation of the growth of teaching competency during student teaching. It appears possible to use these instruments in situations in which the student teacher works with a given group of pupils over a period of several weeks. We hope that through test and retest procedures over a period of several months we can appraise the development of certain aspects of teaching competency.

We have assumed that these instruments will differentiate between teachers on certain criteria of competency defined in terms of pupil-teacher interpersonal relations. We plan to check further upon the validity of these instruments by using trained observers to visit and evaluate teachers in their classrooms. We plan to study the relationship between these instruments and other aspects of competency measured by personality tests and attitude tests. We want to study also their relationship to success in student teaching and to general academic achievement. We believe that such studies will reveal that data regarding the area of pupil-teacher and pupil-pupil social and emotional relationships will be helpful in giving a more complete description of the basic competencies which teachers should possess, at least those serving in our elementary and secondary schools.

Estimating Future School Enrollments in Rapidly Growing Communities

By JOHN H. HERRICK

AN ESSENTIAL part of any school-building survey is the estimating of the future number of pupils to be housed. Larson and Strevell recently described and compared several methods of making such estimates.[1] They concluded that no one of the methods commonly used was completely satisfactory, and none was clearly superior to the others.

In recent years the Bureau of Educational Research, Ohio State University, in its school-building surveys has employed an enrollment-projection procedure which was described briefly in the Twenty-seventh Yearbook of the American Association of School Administrators[2] and in more detail in a recent issue of *School Executive*.[3] This method, which Larson and Strevell would classify as a "projection of enrollments and births," consists essentially of estimating first-grade enrollments from birth data and then projecting other enrollments forward from grade to grade according to rates of survival which have prevailed in recent years.

An important assumption inherent in this method is that, in the future period for which predictions are made, the net effect of migration into and out of the school district will be the same as in the recent period upon which the survival rates are based. This is a reasonably safe assumption in a community where there is little reason to anticipate any major population shift. In many other school districts, however, the assumption would be quite untenable. This enrollment-prediction procedure is especially unsuited to a growing residential suburb in a metropolitan area adjacent to a large city.

In one such residential suburb, for example, it has recently been found in connection with a survey conducted by the Bureau of Educational Research that the enrollment of the typical grade group in the elementary school in recent years has been

[1] Larson, Knute G., and Strevell, Wallace H. "How Reliable Are Enrollment Forecasts?" *School Executive*, LXXI (February, 1952), pp. 65–68.

[2] *American School Buildings*. Washington, D.C.: American Association of School Administrators, 1949. pp. 56–57.

[3] Herrick, John H., and Gottfried, Franklin J. "Predicting Future Enrollments," *School Executive*, LXX (August, 1951), p. 66.

about 10 per cent larger than the membership of the same group when in the preceding grade. In this same community, the first-grade enrollment was found to be three or four times as large as the number when these children were in the age classification, "under one year." These high survival rates, or "retention ratios" as Larson and Strevell would call them, are obviously the result of a substantial net in-migration, and their use in making enrollment projections would, of necessity, assume continued operation of this factor at the same high level.

Whether or not a given residential suburb will continue to experience rapid growth from in-migration depends not only upon the availability of suitable building lots in the suburb, but also upon many other factors both in the community and beyond its boundaries. Among the external factors involved are the level of prosperity in the parent city (and, in fact, throughout the nation and world), the availability of labor and materials for new home construction, the suitability of public transportation service, and the availability of automobiles and adequate highways.

Since these factors are beyond the control of the local school authorities and are quite unpredictable, it would be unwise to plan a school-building program on the assumption that in-migration would continue at the former rate. Therefore, the enrollment-projection procedure commonly employed by the Bureau of Educational Research is not satisfactory in such communities. The remainder of this article will describe how the Bureau staff has handled this problem in two recent cases.

Case A is that of a residential community of about twenty thousand people located in the metropolitan area surrounding a large city. The school district in question has grown rapidly in recent years. In fact, in the first twenty months after the 1950 census, enough building permits were issued to increase the number of dwelling units in the city portion of the district by 26 per cent, and there has been even greater growth in the portions of the school district outside the municipality.

In this case, the survey staff decided to make two sets of enrollment projections. The first set was made according to the usual procedures using survival rates based upon recent years. Thus this projection assumed continued in-migration at a very high rate. The second projection was by the same method but

with the survival rates adjusted downward to squeeze out any substantial effect of net in-migration. In this second projection, it was assumed that pre-school age groups would advance to first-grade status with no increase in size, and beyond the first grade it was assumed that there would be 100–per cent survival from grade to grade. Somewhat lower survival rates were used in the last four grades.

Consideration of the available information made it seem quite unlikely that future in-migration would be high enough to justify use of the high enrollment projections. On the other hand, it seemed unreasonable to assume such decrease in population growth as would be necessary to support the low estimates. It was found, however, that limited funds made it necessary to base the recommendations on the low estimates of enrollments, and that the two sets of estimates could be used together in designing a satisfactory pattern of future school-building locations. Although the recommendations for immediate construction were based on the low estimates, the pattern was designed to permit easy expansion of capacity as needed within the long-range plan.

Case B is that of a suburban city of about eleven thousand people in the metropolitan district surrounding another large city. In this community, the recent growth had been much less rapid, but the prospects for future growth are promising. The approach made by the survey staff was to estimate the school enrollment that would prevail after the entire community was built up, and then establish a pattern of school-building locations that would be appropriate at that time. The thought was that new school-plant capacity would be provided as needed from time to time within this long-range pattern. Another projection was made according to the usual plan as a means of determining needs for the more immediate future.

In formulating its long-range plan, the survey staff used aerial photographs, zoning maps, and maps of platted subdivisions. Vacant lots were counted and estimates were made of the number of lots that could be developed in the unplatted sections. By this procedure there was derived an estimate of the number of dwelling units that would exist with the entire city subdivided and all lots improved in conformity with zoning regulations. The reasonableness of this estimate was then

[*Continued on page 111*]

Inequalities in School Support in Cuyahoga County

By HERBERT F. MILLER

A STUDY of the inequalities of educational opportunity in the ten local school districts of Cuyahoga County, Ohio, that maintain secondary schools was undertaken by the writer in 1949.[1] Included in this study was an investigation of some of the variations in financial support in these districts, including for each district: tax-duplicate property valuation per pupil, tax rates for school operation, revenue available from the School Foundation Program, tuition rates for secondary schools permitted by law, and revenue actually received for school operation during the school year 1947–48.

A similar study of school support in these districts two years later (1949-50) has now been completed. In this report some of the results of both investigations will be discussed.

Cuyahoga County is not a typical Ohio county in many respects. One of its districts in 1949 had the highest property valuation per pupil in the state. Cleveland, the largest city of the state, whose industrial activity and residential requirements spread beyond the county limits, is located in this county. The districts under consideration are, therefore, suburban rather than rural. Two of the districts, Brooklyn and Mayfield, ceased to be local districts at the close of 1951.

Despite the increasing contributions from state funds in Ohio, local property tax on real estate is still the chief source of school support. Since the revenue from a property tax depends upon valuation as well as rate, both of these must be considered in any study of school support. Valuation of property, appraised in relation to school population, gives an appropriate item for use in comparisons of school support, since it provides an indication of the ability of a district to support education.[2]

The contributions through the foundation program in 1949

[1] Miller, Herbert F. "Inequalities of Educational Opportunity in the Ten Local Secondary Schools of Cuyahoga County, Ohio, and Recommendations toward their Equalization." 1949. Unpublished Master's thesis on file in the library of Ohio State University.

[2] *See* Paul E. Spayde's reference to this measure of comparison in his article, "Some Aspects of Public School Finance," EDUCATIONAL RESEARCH BULLETIN, XXVI (October 15, 1947), p. 171.

were based on valuation data for 1947 and average daily membership (A.D.M.) of the districts for the school year 1947–48. Valuation in the ten districts ranged from $4,368,273 in Strongsville to $53,406,249 in Cuyahoga Heights. The

TABLE I

VALUATION PER PUPIL OF THE TAXABLE PROPERTY ON THE TAX DUPLICATE OF EACH DISTRICT

District	Valuation per Pupil	
	1947–48*	1949–50†
(1)	(2)	(3)
Brecksville	$ 10,454	$ 11,375
Brooklyn	10,840	15,351
Cuyahoga Heights	124,200	128,596
Independence	16,955	18,263
Mayfield	14,943	13,980
North Royalton	7,897	7,840
Olmsted Falls	6,598	6,986
Orange	17,238	16,427
Solon	11,805	13,701
Strongsville	$ 7,745	$ 7,688

* Valuations for 1947 and A.D.M. for 1947–48.
† Valuations for 1949 and A.D.M. for 1949–50.

TABLE II

SCHOOL TAX RATE LEVIED ON REAL ESTATE AND PUBLIC UTILITIES FOR CURRENT SCHOOL PURPOSES

District	Rate in Mills	
	1948	1950
(1)	(2)	(3)
Brecksville	12.2796	13.69
Brooklyn	10.8661	11.37
Cuyahoga Heights	4.1	4.1
Independence	10.7	10.6
Mayfield	12.1438	12.69
North Royalton	9.9	15.9
Olmsted Falls	12.5	21.0
Orange	6.66	11.2
Solon	11.9	17.5
Strongsville	10.6512	13.05

A.D.M. figures for Grades I to XII varied from 287 to 790. Since not all the districts maintained kindergartens, pupils at this level were not included in these figures. Property valuation and A.D.M. were combined to show the valuation per pupil in each of the districts. These figures are given in Column 2 of Table I. Similar data for 1949 valuations and A.D.M. for

1949–50, which were used to calculate the foundation program for 1951, are given in Column 3. In 1947–48, this amount varied from $6,598 in Olmsted Falls to $124,200 in Cuyahoga Heights. The ratio between these extremes is almost 19 to 1. In 1949–50, three districts had slight decreases in valuation per pupil as compared with 1947–48, but the districts at the extremes are the same. The range of variation is greater but the ratio between the highest and the lowest remains about the same. It will be noted that three districts—North Royalton, Olmsted Falls, and Strongsville—had valuations of less than $10,000 per pupil both years.

TABLE III

PERCENTAGE OF FOUNDATION PROGRAM IN ADDITIONAL AID AND NET REVENUE PER PUPIL FROM THE FOUNDATION PROGRAM

District	Per Cent of Foundation in Addition Aid		Net Revenue per Pupil	
	1949	1951	1949	1951
(1)	(2)	(3)	(4)	(5)
Brecksville	18	15	$61	$61
Brooklyn	8	0	49	43
Cuyahoga Heights	0	0	27	31
Independence	3	0	43	40
Mayfield	4	7	43	47
North Royalton	29	31	74	83
Olmsted Falls	32	30	76	84
Orange	0	0	39	42
Solon	19	10	52	50
Strongsville	29	30	$78	$84

THE tax rates levied on real estate and public utilities for school purposes in 1948 and 1950, as shown in the annual financial reports of the county superintendent, are presented in Table II. The rates listed are the sum of the rates inside and outside the ten-mill limitation. It will be noted that the eight districts lowest in valuation per pupil all maintained rates between 9.9 and 12.5 mills in 1948. The highest rate, 12.5, was maintained by the poorest district in terms of property valuation per pupil, Olmsted Falls. This rate was more than three times the rate of 4.1 mills in Cuyahoga Heights. In 1950, while Cuyahoga Heights had not increased its rate at all, Olmsted Falls increased its rate to 21 mills, almost five times the rate of Cuyahoga Heights. The other eight districts each maintained a rate of at least 10.6, more than two and one-half

times the rate of the wealthiest district. Greater effort through higher rates is evident.

THE previous discussion has indicated how the local property tax may affect the school operating revenue of the school district. In its foundation program the state has attempted to reduce somewhat the inequalities inherent in the local tax system. After making a flat distribution to each district based on fixed rates for average daily membership, additional state aid is granted to each district whose property valuation per pupil is too small to provide, at an arbitrarily assumed rate, enough total revenue to equal the sum of certain minimum amounts per pupil and certain transportation costs. These guaranted amounts and transportation costs together are called the total foundation program.[3]

Data on three aspects of the foundation program are presented here as further indication of inequalities in support of the schools in these districts. These are: the percentage of each district's total foundation in the form of additional aid, the revenue per pupil from the net foundation program, and the tuition rates allowed each district under the provisions of the foundation law. The program is calculated for the calendar year, but half the apportionment is paid biannually. Thus the apportionment from the foundation program to any district for a school year is the sum of the parts calculated on different valuations and average daily membership. New rates became effective for the second half of the calendar year 1951, so that apportionments for the second half of the year were larger than for the first half.

The percentage which additional aid is of each district's foundation program is a measure of the district's financial need; the greater the percentage, the greater the need. This percentage, rounded to the nearest per cent for the years 1949 and 1951, is shown in Columns 2 and 3 of Table III. Two districts, Cuyahoga Heights and Orange, received no additional aid, and two others, Brooklyn and Independence, received none in 1951. These latter districts had considerable increases in valuation per pupil in the meantime. Brooklyn has a valuation of about $15,350 and received no additional aid, while Solon with about

[3] The provisions of this law and the rates in effect are found in Sections 4848 to 4848–10 of *The Ohio General Code.*

$13,700, and Mayfield with about $14,000, received additional aid of 10 and 7 per cent, respectively. It would seem, therefore, that the vanishing point for additional aid is about $15,000 valuation per pupil. However, the proportion of pupils in the three levels, kindergarten, elementary school, and secondary school, would cause the vanishing point to vary somewhat among districts.

The apportionment calculated for each district, called gross apportionment, is never fully paid directly to the district, since the law provides that the district's share in the budget of the county board of education and its payments to the teachers' and employes' retirement systems shall be deducted from the gross apportionments and paid directly to the agency concerned. The difference actually paid the district is called the "net apportionment." In Columns 4 and 5 of Table III, the net apportionment from the foundation program, rounded to the nearest dollar per pupil, including those in kindergarten, has been listed for the years 1949 and 1951. The range of these net apportionments in 1949 was from $27 to $78, while in 1951 it was from $31 to $84. It will be noted that to the three districts whose property valuation is less than $10,000 per pupil, the percentage of the foundation program in the form of additional aid was approximately 30 per cent each year, and that there was increased apportionment in 1951, so that each received about $84 per pupil, the maximum for these ten districts. In these cases the law seems to be operating to reduce inequalities. However, it will be noted that there were increased apportionments to some districts which received little or no additional aid. Can these be justified?

As indicated earlier, the sources of revenue to provide the foundation program for any district are: first, flat distribution; second, revenue from local property tax at an assumed rate (usually much lower than the actual tax rate in effect in the district); and third, additional aid. In 1949, the rate assumed for the local responsibility was 4½ mills. In the latter half of 1951 this rate was increased to 5⅜ mills. This change alone would have increased each district's responsibility in the foundation program and would thus have tended to reduce any district's revenue from the net program. However, at the same time the rates for flat distribution and for that part of the total foundation program based on average daily membership

were also increased. These changes, operating together with changes in valuation and A.D.M. resulted in increased apportionments per pupil in six districts, no change in one district, and decreases in three districts for 1951 as compared with 1949. In Mayfield, the increase was no doubt partially the result of the large increase in A.D.M. together with the increased rates for flat distribution; A.D.M. increased from 893 in 1947–48 to 1,250 in 1949–50. The fact that there was increase in both Cuyahoga Heights and Orange, the two districts which needed it least, while other districts receiving considerable additional aid had no change, would seem to indicate that in this one instance, at least, the law was not operating to achieve one of its purposes: ". . . the equalization of educational opportunities throughout the state."

The financial advantages of Cuyahoga Heights are further indicated by the fact that it is the only district of the ten whose property tax rate is lower than that assumed as the minimum to calculate the foundation program. In this case the theoretical yield (5⅜ mills × the valuation) would total more than four times the amount of the total foundation program for that district. In no other instance does this theoretical yield approach closely the district's foundation program. However, with their higher rates, the other districts, excepting North Royalton, Olmsted Falls, and Strongsville, exceed their foundation programs by means of their property tax alone. Despite their relatively high effort as indicated by high rates, the weakest three districts could not maintain their schools at foundation minimum level without the operation of some equalizing measures or further increases in local tax rates.

CHILDREN in a number of school districts in Ohio which maintain no schools, and in others which operate elementary schools only, are forced to attend schools outside their home districts. The tuition rates which schools may charge the home districts or the parents of such pupils are calculated under the provisions of Section 4848–5 of *The Ohio General Code*, which is part of the foundation law. Since the gross rate is based on the actual per-pupil operating expense of the district, these rates serve as a further indication of variation in support of the schools. Separate rates are determined annually for elementary-school and secondary-school pupils. In practice, the

amount the district benefits from the foundation program as a result of the tuition pupil's membership is subtracted from the gross rate to determine the net rate which is actually charged. For comparison of the districts, however, it seems fair to use the gross rate, since the district actually receives that amount from two separate sources: the pupil's parents or home district and the foundation program. The gross rates for secondary-school pupils in these districts, as calculated by the Department of Education for 1949 and 1951, are listed in Table IV.

In 1949, the range of rates per month was from $70.71 in Cuyahoga Heights to $21.10 in North Royalton, a ratio of extremes of about 3.3 to 1. In 1951, these same districts were at the extremes, with $65.19 and $22.53, respectively, but the ratio decreased to less than 3 to 1. Since Brooklyn had the second highest rate in 1949 ($31.18) and Solon the second highest in 1951 ($40.10), the ratio between the second highest and the lowest districts has increased from about 3 to 2 to about 2 to 1. Similar variation would be found among the tuition rates for elementary-school pupils.

IN THE previous discussion, some of the major causes of variation in revenue for school operation in these districts have been pointed out. Apparently, there is also considerable variation in the percentage of levied tax collected in these districts. Hence, it seems appropriate to consider now the amounts these districts actually received to operate their schools.

In the annual financial report of each county superintendent, the revenue of each district is reported under a number of categories. For the purpose of comparing these districts it seemed necessary to exclude some of these categories, such as tax revenue earmarked for bonded indebtedness, cafeteria receipts, and state or federal funds for special purposes. Accordingly, a total was made for each district of the following categories of revenue for the school years 1947–48 and 1949–50: property tax for current expenses, tangible personal property tax for current expenses, county school tax fund, net foundation program, tuition from other than state sources, and a miscellaneous category including gifts and rentals. This total was divided by the number of pupils (including kindergarten) in A.D.M. to ascertain the revenue per pipil. These amounts are listed in Table V.

The inequalities of support among the districts are indicated

by the range and ratios of these amounts. In 1947–48, Cuyahoga Heights could spend $452 per pupil, while North Royalton could spend $152, only about one-third as much. In 1950–51, the ratio between highest and lowest had increased to more than 3 to 1, while Cuyahoga Heights could spend $508, Strongsville could spend only $169. The huge advantake of Cuyahoga Heights is further emphasized by noting

TABLE IV

SECONDARY-SCHOOL GROSS TUITION RATES

District	Gross Tuition Rate per Month	
	1949	1951
(1)	(2)	(3)
Brecksville	$27.02	$28.77
Brooklyn	31.18	33.26
Cuyahoga Heights	70.71	65.19
Independence	28.71	.....
Mayfield	32.01	35.00
North Royalton	21.10	22.53
Olmsted Falls	21.83	26.65
Orange	27.59	31.42
Solon	27.34	40.10
Strongsville	$25.20	$23.46

TABLE V

REVENUE PER PUPIL RECEIVED FOR SCHOOL OPERATION

District	Revenue per Pupil	
	1947–48	1950–51
(1)	(2)	(3)
Brecksville	$206	$221
Brooklyn	181	296
Cuyahoga Heights	452	508
Independence	205	221
Mayfield	201	228
North Royalton	152	194
Olmsted Falls	163	208
Orange	194	249
Solon	220	307
Strongsville	$198	$169

that it could spend over $200 more per pupil in 1950–51 than the next highest district in the county, and that the amount of this difference is more than the total per-pupil expenditure of each of two other districts.

Among the nine districts exclusive of Cuyahoga Heights the ratio between highest and lowest also increased from 1.45 in 1947–48 to 1.8 in 1950–51. The only district with a decrease

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EDITORIAL COMMENT

In Memoriam

W. W. CHARTERS, who died on March 8, was one of a handful of men who remade educational history in the first half of this century. When he retired from Ohio State University in 1942, I tried to do an editorial on him and his work. I wanted to comment on my relationships with him during the past twenty-five years, first as student, next as colleague, and always as friend. But my reactions were too personal or too elusive for print. Further, since Mr. Charters never did retire from active professional life, it is just as well that I remained silent.

I have wondered since why it was hard to write about Mr. Charters and why it is hard to do so now. There are two good reasons. First, it is hard to say publicly the personal and appreciative word which is more appropriate in a letter. But there is still another reason for this elusiveness. Mr. Charters was a Protean character who played many rôles extraordinarily well. He was a public-school teacher, a professor, a dean, a director, a research worker, and an administrator.

In all of these rôles he was on the growing edge of things. He raised entirely new questions about education and gave new answers to old questions. He was a pioneer in the curriculum, in teacher education, in personnel, in the use of radio, motion pictures, and television for fruitful social purposes.

Mr. Charters knew a great deal about the art of getting things done. He liked to think of himself as an educational engineer, but he had none of the spirit of cold mechanical efficiency sometimes associated with this term. His engineer was above all things a human being. Mr. Charters treated a student with the same courtesy and attention he would give a colleague. He always had time to light up his pipe and talk things over. He felt warmly affectionate toward his two families—the little family consisting of Jessie his wife and the children (Margaret, Jean, Aileen, and Sandy), as well as his big family consisting of his students and friends scattered widely throughout the United States.

I think it is Mr. Charters' understanding of people as persons that will remain longest in our memory. He saw the greatness in individuals as well as their foibles and fallibilities.

He was good-natured but understanding about the fact that most of us talk a better job of research or administration than we really deliver. But he had confidence in people and hope in the future.

Last summer on our campus I saw him receive his honorary degree with Ralph Bunche. Here were two men whose lives had been dedicated to people, who had mastered the art of working with all kinds of people, of settling differences by thoughtful discussion. They were both in distinguished company.

EDGAR DALE

Current Projects of the School-Community Development Study

THIS partial progress report on the work of the School-Community Development Study will supplement the plans recounted in the January issue of the BULLETIN. Early in February the thirty-six lay and professional advisers representing the State Department of Education, the public schools, the universities, and community leaders met with the advisory committee and approved the program of activity for the School-Community Development Study, upon which reports will be made frequently.

The first "co-operating community center" selected is the Butler Township Schools at Vandalia, Ohio. Here, the administrative staff, the teachers, the Board of Education, and community leaders are working together to improve and extend educational opportunity for the children and youth of that community. The School-Community Development Study staff provides appropriate consultant help, and at the same time, the community effort is an object for research. Specific attention is given to the rôle of the educational leader in such a co-operative effort. During the spring quarter other co-operating centers will be chosen, in which the staff expects to study problems of educational leadership in typical Ohio communities.

The professors in the nine universities of Ohio in which graduate programs in school administration are offered are co-operating with the staff of the Development Study in two significant studies:

Professors from Akron, Bowling Green, Cincinnati, Kent, Miami, Ohio, Ohio State, Toledo, and Western Reserve Universities are co-

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READINGS

Books to Read

GULLIKSEN, HAROLD. *Theory of Mental Tests.* New York: John Wiley and Sons, Inc., 1950. xix+486 pp.

Amateur test technicians or test constructors will not find this textbook suited to their ability level or to their perceived needs. Advanced students of psychological test theory, with adequate mathematical and statistical training, will find it a challenge and a valuable addition to their technical library.

Mr. Guilliksen, professor of psychology and research adviser to the Educational Testing Service at Princeton University, has accomplished a truly monumental task in bringing together and augmenting the periodical literature of the past several decades. A bibliography of approximately five hundred titles, most of which are actually incorporated into the text, bespeaks the excellent coverage of this volume.

Important topics covered include validity, reliability, parallel tests, scoring, standardization, weighting and differential prediction, and item analysis. The effect of test length, heterogeneity of subjects, selection of subjects, and of speed versus power on test performance and outcomes are also covered.

Appendixes include basic mathematical and statistical equations, a table of normal curve values, sample test questions from statistics, and sample test questions on test theory. Each chapter includes problems to which answers are given in the back of the book. There are separate author and topic indexes, but the latter is disappointingly abbreviated.

This is not a book to read superficially, but it will repay time spent in studying it.

ROBERT J. WHERRY

BOYD, WILLIAM. *The History of Western Education.* 5th ed. London, England: A. and C. Black, 1950. xi+473 pp.

This is a revision of a recognized standard work in this field by the eminent Glasgow Rousselian scholar. The new material consists principally of an expansion of views on nineteenth-century education and a good new chapter on twentieth-century education from a mid-century perspective. The most important feature of this book has always been the careful, scholarly treatment of the great historical movements and the great reformers and educators whose influences on educational thought and practice in the West have been decisive. The influence of the biological and statistical aspects of the scientific movement and the progressive-education movement and John Dewey becomes an important part of the total pattern in this revision.

Some of the most noteworthy portions of the last chapter include an appraisal of the global impact of Western education, a very excellent insight into the cultural and educational changes wrought by totalitarian patterns in Russia, Italy, and Germany, and the problems set for the democratic liberal tradition, as well as several fine pages on the importance for democracy of employing all the avenues of informal education as an integral part of organized education.

A comparison of Boyd's last chapter with that in H. G. Good's *A History of Western Education* would be a very illuminating exercise for students of education. Good writes from an American standpoint and emphasizes the problems and lessons set by the history of education for American education, a characteristically American approach; Boyd is British in his emphasis and employs the traditional method of historiography colored by the classical and humanistic overtones of British scholarship. Both are excellent histories, but Good's was written for textbook use while Boyd's volume is probably intended for the general consumer of educational history.

The bibliography and index are good. American readers should note the phrase "amateur educators like Dewey and Montessori" (page 406). Boyd is not casting any reflection on Dewey, but probably uses the term "amateur" in the Greek sense, or to indicate that Dewey, especially, is first a philosopher and only as a result of his philosophy concerned with educational theory and practice.

CLARKE L. FOSTER

SHARP, GEORGE. *Curriculum Development as Re-education of the Teacher.* New York: Teachers College, Columbia University, 1951. x+132 pp. (Teachers College Studies in Education).

The modern concept of the curriculum is that it is all the educative experiences under the conscious guidance of the school. This is in direct contrast to the older idea of a fixed body of subject-matter to be learned. It is not confined to the classroom "but flows out into the life of the school and beyond the school itself" (page 1). It is a series of experiences designed to give each child a rounded program of living.

The teacher, the key figure in the process of guiding children, must grow as a person if he is to improve the quality of the experiences children have, and contribute to curriculum change. The thesis of this book is that teacher growth, development of teacher personality, is the crucial factor in curriculum change.

In order to work through the older conception of the curriculum and accept the modern concept, teachers must be helped to reorient themselves, to see themselves in a different relationship to the school and to their pupils. Reorientation requires re-education, a slow and gradual process, through which teachers are helped to achieve new insights into children and their needs, and to discover new ways of teaching that help them relate their class work to those needs.

The traditional teacher is herein defined as the teacher whose personal and professional growth has been arrested. He has "settled down," accepted a crystallized system of teaching. To change from the older, traditional approach to education to a more modern one requires that the teacher change his frame of reference, not only to teaching but to life itself. The curriculum worker's task is viewed by the author as one of re-education of teachers.

Re-education of teachers comes about through an indirect approach to the problem of learning. Unless the teacher himself desires to grow, sees the advantages to himself of changing his behavior, he may conform, accept intellectually the newer concept of curriculum, and yet make no really permanent or effective changes. The curriculum worker must begin where teachers

are, accept them, respect them, not try to force his views on them, and try "to set up an environment which tends to foster new perceptions" (page 23). A clear understanding of the problems of curriculum development, an ability to help teachers develop insights, and a working knowledge of the dynamics of behavorial change are required of the curriculum worker, as well as a thorough understanding of his own rôle in the task of re-education.

Re-education is broadly defined here as "regrowing with support" (page 39). The curriculum worker is the person who must provide the support for individual teachers, while they recognize the necessity to resume growth, and take steps to learn new behaviors. The author offers many valuable and practical suggestions about the re-educative process in a chapter entitled "The Re-educative Process in the Individual Setting." The whole purpose of the re-educative process, he maintains, is "to help the individual grow in independence and self-reliance" (page 41). He lists the aspects of the process of re-education as the establishing of relationships, the developing of free expression, the gaining of insight, and the testing of reality. The discussion of each of these aspects contains specific and sound procedures and techniques for use with the individual in solving his problems.

The chapter, "The Re-educative Process in the Group Setting," gives many valuable suggestions for the development of leadership. "The growth in professional training of teachers and the increasing complexity of the curriculum make necessary a new approach to working relationships in the school that is founded on a co-worker basis" (page 86). Realistic suggestions for establishing a democratic leadership relationship are discussed here, and basic procedures for fostering teacher growth are described.

The appendix, "A Description of Rôle-Playing," should be an especially valuable part of this book to curriculum workers and to all educational leaders involved in the process of teacher growth. The author defines rôle-playing as "a conscious attempt to examine the way an individual plays his rôle in life in his relations with other individuals" (page 123). He discusses at length the use of this technique in working with teachers in a group setting, states its advantages as an educational and supervisory technique, and gives many practical suggestions for its use. He also points out its value as a device for interpreting the work of the school to parents.

This is a practical book with a challenging point of view. It is well written and notable in that it contains none of the gobbledygook and pedaguese characteristic of many books on professional education. Its value is certainly not limited to the curriculum worker. It should be helpful to graduate and undergraduate workers in teacher education, and to superintendents, principals, and supervisors interested in in-service education. The reviewer found many applications of the principles set forth to her work with undergraduates in their professional education.

MARY BRADBURY

HOULE, CYRIL O. *Libraries in Adult and Fundamental Education: the Report of the Malmö Seminar.* Paris, France: Unesco, 1951. viii+179 pp. (Unesco Public Library Manuals, No. 4).

This book contains the reports and the most important working papers of the Seminar on the Rôle of Libraries in Adult Education held under the

auspices of Unesco, at Malmö, Sweden, in the summer of 1950. The seminar, which was attended by forty-five participants from twenty countries, was directed by Cyril O. Houle of the University of Chicago.

The whole field of library adult-education programs is dealt with in a very practical way. The discussions include such topics as planning and publicizing the program, evaluation of the results, use of audio-visual aids, and organization of group activities. One part of the report covers the problem of incorporating library services in a general scheme of mass education in the under-developed areas of the world. This section gives practical technical advice on the organization and operation of libraries in such areas.

The book contains much material of value to librarians and to others interested in planning adult-education programs. In addition, throughout the book, but especially in the first two chapters and in the last, there is useful information on the techniques of seminar organization and operation.

HELEN E. DEAN

VERNON, PHILIP E. *The Structure of Human Abilities.* New York: John Wiley and Sons, Inc., 1951. xii+160 pp.

Mr. Vernon, professor of educational psychology at the University of London, has given both the technically unadvanced student and the layman an excellent opportunity to become acquainted with practically all of the old and new findings in the field of factor analysis. This book is more readable than any comprehensive work on factor analysis previously published, with the possible exception of Dael Wolfle's *Factor Analysis to 1940*, and it abounds with references to work since then. There is a bibliography of 265 articles.

This book presents a new hierarchical theory of human abilities. Ability is held to stem from an over-all central ability (g) to include at least two large group factors—educational-verbal (v:ed) and practical (k:m), which in turn are superimposed over smaller group factors, each of which in turn embraces numerous specific abilities. This viewpoint is more nearly a modification of Spearman's than of Thurstone's theory.

The manner in which most British and American tests fit into this structure is well described. There are adequate discussions of verbal and non-verbal tests of intelligence; tests of sensation, perception, imagery, and aesthetics; psychomotor and physical-ability tests; and performance and mechanical-aptitude tests.

There are many practical suggestions for both educational and vocational guidance. The presentation is non-technical. The book tells what has been found rather than how to find it. It is decidedly worth reading.

ROBERT J. WHERRY

YAUCH, WILBUR A. *How Good Is Your School?* New York: Harper and Brothers, 1951. x+213 pp.

The author dedicated this book to "All the Mothers and Fathers Who Want to Know." In it he promises to do two things especially for them: "Describe frankly and simply what the better schools are doing and why, [and] give some concrete suggestions of how you can get your school to put these practices into operation" (page 8).

The first promise he fulfills through a well-related descriptive visit in a

modern elementary school and an elaboration of practices observed in, "What Do Parents Need to Know about a Good School?" (Part III). Within about one hundred pages the author discusses concisely the newer findings in the literature about child growth and development and teaching procedures and resources, and translates these findings into curricular practices wherein first-hand experiences and book-learning are both enriched. Parents are given many glimpses into the "what," and "why," and "how" of forward-looking education.

The author's second promise, about how to get better practices into operation, is dealt with in Part IV, "What Parents Can Do about It." After urging parents to know enough "to know what they want," Mr. Yauch offers a series of positive suggestions on the action level for bringing about desirable change. He includes a check list of one hundred items to be used as a guide, but not as a rating scale, in appraising school programs.

To supplement his own concrete suggestions, the author has compiled an annotated bibliography of books for parents who wish to read further. These books are classified as "Books for General Background," "Books about Children," and "Descriptions of School Practices." This bibliography, as well as the book itself, might well be helpful to parents and teachers working together on their mutual concerns for better education for more of today's children.

MARY JANE LOOMIS

SANFORD, CHARLES W.; HAND, HAROLD C.; AND SPALDING, WILLARD B., editors. *The Schools and National Security*. New York: McGraw-Hill Book Company, Inc. 1951. xviii+292 pp.

This is a thoughtful study of ways and means that the schools of the state of Illinois, and other states as well, may use to promote local, state, and national defense. It covers concisely such topics as the conflict in which we are engaged; what it takes to be strong; what should be done to become and remain strong; peace is possible, if . . . ; if war occurs; education is an essential bulwark of the nation in the present crisis; major implications for the instructional and guidance programs of the schools; and a recommended national security program for the schools. It is an excellent exploration of a very serious problem, and I believe it should be read by all school teachers in the United States. As Armstrong says, the essence of the conflict between free enterprise and Communism boils down to "We or They."

E. E. LEWIS

FRANZEN, CARL G. F. "Improvement Sheets for the Teaching of High School Subjects." Dubuque, Iowa: W. C. Brown Company, 1951. viii+204 pp.

The thirty-three improvement sheets include series of questions requiring "yes" and "no" answers to reveal the presence or absence of desirable teacher or pupil activities. According to the author, the items were derived from an analysis of all available references on the teaching of the particular area to which each sheet refers. "Every item that suggested an activity whose use might produce better results in the classroom [was] excerpted and placed in one or both of [the activity] categories" (page vi).

The intended use of the sheets (by teachers for self-checking, by invited

colleagues, principals, and others for securing data for further discussion) is blunted when one couples the "job analysis" flavor of the content with the author's own admonition that "the absence of a particular activity may be due to its irrelevance to the lesson at hand" (page vi). Detrimental limitations are revealed: specific actions that might well be expected of all teachers are seemingly often confined to teachers in particular areas; some activities, necessarily described so as to be easily detected, may, indeed, be present in a given class but unaccompanied by essential timing, relevance to locale, pertinence to the particular group, or other appropriate context; where broad qualitative terms appear, the teacher may feel quite honestly that "yes"is merited, and thereby eliminate examination of the meaning of the value he affirms.

There are several points of merit: the content may be used as suggestive material which may lead prospective teachers to build, and experienced teachers to reconsider, their own frames of desirable specific activities emanating from consciously held values; the references, accompanying each sheet and frequently identified with specific items on it, provide additional sources for the broadening of one's perspective; careful scrutiny of the items may suggest new techniques to both beginning and experienced teachers. Finally—and the author rightfully calls attention to this—one may get an understanding of the problems and aims of teachers in subject areas outside one's own.

F. James Rybak

Fortune editors in collaboration with Russell W. Davenport. *U. S. A.: the Permanent Revolution.* New York: Prentice-Hall, Inc., 1951. xviii+267 pp.

This book is fresh and challenging. While almost everyone will find many statements in it with which he disagrees rather violently, he will also find much that is stimulating and refreshing, and few will lay it down without having clarified their own thinking about the meaning of the American democratic tradition for our age.

The "permanent revolution" of the title, of course, is a continuing, dynamic approach to all the problems which confront us in terms of our values. Many earnest people in recent years, seeking to understand the disorder and instability of modern institutions, have found it difficult to distinguish between revolution and counterrevolution. In a period of confusion as to the nature and direction of the wave of the future, each rediscovery and restatement of the dynamic and revolutionary nature of democratic ideas is important.

Coming from the source which it does, the discussion of "The Transformation of American Capitalism," Chapter IV, and "The U. S. Labor Movement," Chapter V, is particularly interesting. The authors indicate that a significant segment of American business has made much progress in its economic and social thinking in recent years, perhaps more than the general public, though it has seemed to this writer for some time that the ordinary American today has a far better grasp of the basic principles of production, exchange, and international trade than our president and legislators showed during the war debts controversy of the twenties.

In writing about a book of this kind it is not very significant to point out the particular points on which the reviewer differs from the authors. Each

reader will have his own list. With its truths, its challenges, and its inadequacies, this book is itself a part of the democratic process, and one lays it down with renewed faith in the relevance of dynamic democracy to the problems of our day.

MARGARET WILLIS

* * *

Current Projects of the School-Community Development Study

[*Continued from page 104*]

operating with the project staff in an analysis of the research which they have conducted in the field of school administration. This analysis will be compiled by the project staff for use in all universities to determine areas of needed research in the future.

A thorough examination of the programs of preparation of school administrators in all of these universities began a few weeks ago with a meeting held at Bowling Green University. On May 11 and 12, representatives from these universities will meet at Ohio University to consider the first report on these programs.

The two workshops for school administrators to be held at Miami University and Ohio State University are the results of co-operation between these universities and the staff of the total project. More complete reports of the co-operative work of these associated universities will appear from time to time.

JOHN A. RAMSEYER

Estimating Future School Enrollments in Rapidly Growing Communities

[*Continued from page 94*]

checked by use of an estimate of the maximum ultimate population which had been made earlier by the city-planning commission of the parent city.

The next step was to convert the estimated number of dwelling units to estimated enrollments. This was done by assuming that each dwelling unit would furnish .14 pupils in Grades I through VI. This figure was derived from data for an adjoining, older community. Similar ratios have been found by the Bureau in studies in other cities. Estimates of ultimate enrollment were made by this procedure for certain sections of the city as well as for the city as a whole.

With one set of estimates for the immediate future and another set for an unknown but distant future date, the survey staff set up a pattern of future school-building locations and made recommendations for purchase of necessary sites for future use. The recommendations for immediate construction were consistent with this long-range pattern, and it is contemplated that future construction will also be kept within this framework.

It is obvious that the forecasting of enrollments in both of these communities was unusually difficult and that the resulting estimates are probably less reliable than would be true in school districts of more stable population. However, the estimates derived seemed to be sufficient for developing the broad outlines of a long-range plan. In each case, the survey staff recommended careful review of each major project before beginning construction, and in case A a complete re-survey was recommended in three to five years. [Vol. XXXI, No. 4]

Inequalities in School Support in Cuyahoga County

[*Continued from page 102*]

was Strongsville, where there seems to have been an increase in enrollment without a corresponding increase in revenue. While Solon and Cuyahoga Heights also had increases in enrollments, there were rather large increases in revenue from property tax to compensate.

The data presented in this discussion have shown the extent of inequality in the financial support of the schools in these ten districts. The advantages of Cuyahoga Heights have been emphasized throughout; but it must not be overlooked that there are considerable inequalities among the other nine districts as well. For example, valuation per pupil varies almost three to one, while tax rates and net revenue per pupil from the foundation program vary two to one. The foundation program no doubt operates to reduce the inequalities of support which would exist without it. It seems to the writer, however, that a closer approximation to equality is desirable. In an ensuing article a plan to bring this about will be discussed.

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